

We claim:

1. An interface material for electronic devices comprising at least resin material and at least one solder material.
2. The interface material of claim 1, wherein the interface material further comprises at least one wetting enhancer.
3. The interface material of claim 1 wherein the at least one resin material comprises a silicone resin.
4. The interface material of claim 3, wherein the silicone resin comprises a vinyl terminated siloxane, a reinforcing additive, a crosslinker and a catalyst.
5. The interface material of claim 4, wherein the vinyl terminated siloxane is vinyl silicone.
6. The interface material of claim 4, wherein the reinforcing additive is vinyl Q resin.
7. The interface material of claim 4, wherein the crosslinker comprises a hydride functional siloxane.
8. The interface material of claim 4, wherein the catalyst comprises a platinum complex.
9. The interface material of claim 8, wherein the platinum complex is a platinum-vinylsiloxane compound.
10. The interface material of claim 2, wherein the wetting enhancer comprises an organo-titanite compound.
11. The interface material of claim 1, wherein the at least one solder material comprises an indium-based alloy or compound.
12. The interface material of claim 11, wherein the indium-based alloy or compound comprises InSn, InAg or In.
13. The interface material of claim 1, wherein the at least one solder material comprises a tin-based alloy or compound.

14. The interface material of claim 13, wherein the tin-based alloy or compound comprises SnAgCu or SnBi.
15. The interface material of claim 1, wherein the interface material comprises one of an aluminum or an aluminum-based alloy or compound.
- 5 16. The interface material of claim 1, further comprising a filler material.
17. The interface material of claim 16, wherein the filler material comprises carbon micro fibers.
18. The interface material of claim 1, wherein the material has a viscosity that exceeds 450 poises.
- 10 19. The interface material of claim 1, wherein the material has a thermal impedance of less than $0.3 \text{ cm}^2/\text{C}/\text{w}$.
20. A dispensable paste of an interface comprising at least one resin material and at least solder material.
21. The dispensable paste of claim 20, wherein the paste further comprises at least one wetting enhancer.
- 15 22. The dispensable paste of claim 20, wherein the paste is useful as an interface material for electronic devices.
23. A sheet or film of an interface comprising at least one silicone resin material and at least one solder material.
- 20 24. The sheet or film of claim 23, wherein the sheet or film further comprises at least one wetting enhancer.
25. The sheet or film of claim 23, wherein the sheet or film is useful as an interface material for electronic devices.
26. A method of making an interface material comprising combining at least one silicone resin material with at least one solder material.
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27. The method of claim 26, further comprising adding at least one wetting enhancer to the interface material.
28. The method of claim 26 further comprising formulating a dispensable paste of the interface material.
- 5 29. The method of claim 27, further comprising formulating a dispensable paste of the interface material.
30. The method of claim 26 further comprising molding said interface material as a sheet or film capable of being cut to size and applied as an interface between components in an electronic device.
- 10 31. A method of increasing the thermal conductivity of the interface material of claim 1 comprising incorporating therein carbon micro fibers and at least one thermally conductive filler.
32. A method according to claim 31 wherein said carbon micro fiber is present in an amount of at least about 0.5 wt.%, or in a ratio of carbon micro fibers to polymer of at least 0.05.
- 15 33. A method according to claim 31 further comprising additionally incorporating a filler comprising at least one of silver, copper, aluminum, and alloys thereof; boron nitride, aluminum nitride, silver coated copper, silver coated aluminum, and carbon fibers; and mixtures thereof.